

Via Facsimile No. 703-872-9306

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Remarks

The Office Action mailed December 28, 2004, and made final, has been carefully reviewed and the following remarks have been made in consequence thereof.

Claims 1-20 are now pending in this application. Claims 1, 2, and 10-20 stand rejected. Claims 3-9 are objected to.

The rejection of Claims 1, 2, and 10-11 under 35 U.S.C. §102(b) as being anticipated by Sakane (U.S. Patent No. 5,335,524) is respectfully traversed.

Sakane describes a drum type washing machine including an outer basket (1), a tub (2), held by a suspension mechanism (3), and a drum (4) mounted on a support shaft (5). An electric motor (9) is mounted on the outer bottom of the tub. A transmission mechanism (14) is provided between the shaft and the motor. A control device (27) includes a microcomputer having a storage for storing an operation program for controlling a washing operation including a wash step, an intermediate dehydration step, a rinse step and a final dehydration step. The drum 4 is rotated in a predetermined rotational speed pattern in the wash step. The operation program contains data of rotational speed reference signal (S_n) corresponding to drive patterns, including patterns of rotational speed variations of the drum in the wash step shown in Fig. 3. More specifically, the drum is forward rotated for a time period (T_a) interrupted for a time period (T_b) and reverse rotated for a time (T_a) repeatedly (col. 4, lines 40-50). The motor is feedback controlled so as to be driven to be rotated at the rotational speeds according to the rotational speed reference signal (S_n). The rotational speed of the drum is varied in each period of rotation in the wash step as shown in FIG. 3 (col. 5, lines 24-28).

Claim 1 recites a method for extracting water from laundry articles between a wash cycle and a rinse cycle, the method including performing a spin cycle between the wash cycle and the

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rinse cycle, the spin cycle including "a first initial spin; a first rest period after said first initial spin; and a spin subsequent said first rest period commencing immediately after said first rest period, said spin subsequent said first rest period comprising a spin lasting until an end of said spin cycle".

Sakane does not describe or suggest a method for extracting water from laundry articles between a wash cycle and a rinse cycle, the method including performing a spin cycle between the wash cycle and the rinse cycle, the spin cycle including a first initial spin, a first rest period after the first initial spin, and a spin subsequent the first rest period commencing immediately after the first rest period, wherein the spin subsequent the first rest period includes a spin lasting until an end of the spin cycle. More specifically, Sakane does not describe or suggest a spin subsequent the first rest period commencing immediately after the first rest period, and lasting until an end of the spin cycle. Rather, Sakane describes a drum that is forward rotated for a time period T_a , interrupted for a time period T_b , and reverse rotated for a time T_c , repeatedly in a wash step, which is not part of the spin cycle. Accordingly, for the reasons set forth above, Claim 1 is submitted to be patentable over Sakane.

Claim 2 depends from independent Claim 1. When the recitations of Claim 2 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 2 likewise is patentable over Sakane.

Claim 10 recites a washing machine including "a basket; a motor providing motion for said basket; and a controller operatively coupled to said motor for controlling said motor, said controller configured to perform a spin cycle between a wash cycle and a rinse cycle by starting said motor for a first initial spin, stopping said motor for a first rest period, and starting said motor immediately following the first rest period to spin until the spin cycle ends".

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Sakane does not describe or suggest a washing machine including a basket, a motor providing motion for the basket, and a controller operatively coupled to the motor for controlling the motor, wherein the controller is configured to perform a spin cycle between a wash cycle and a rinse cycle by starting the motor for a first initial spin, stopping the motor for a first rest period, and starting the motor immediately following the first rest period to spin until the spin cycle ends. More specifically, Sakane does not describe or suggest a controller configured to perform a spin cycle between a wash cycle and a rinse cycle by starting the motor for a first initial spin, stopping the motor for a first rest period, and starting the motor immediately following the first rest period to spin until the spin cycle ends. Rather, Sakane describes a control device wherein the motor is feedback controlled so as to be driven to be rotated at the rotational speeds according to the rotational speed reference signal (S_n) (col. 5, lines 24-26). Thus, the motor is also operated in a pattern of forward rotation that is interrupted and followed by reverse rotation repeatedly in a wash step, which is not part of the spin cycle. Accordingly, for the reasons set forth above, Claim 10 is submitted to be patentable over Sakane.

Claim 11 depends from independent Claim 10. When the recitations of Claim 11 are considered in combination with the recitations of Claim 10, Applicants submit that dependent Claim 11 likewise is patentable over Sakane.

For at least the reasons set forth above, Applicant respectfully request that the 102 rejection of Claims 1, 2, and 10-11 be withdrawn.

The rejection of Claims 12-20 under 35 U.S.C. §103(a) as being unpatentable over Sakane is respectfully traversed.

Sakane is described above. Applicants respectfully submit that the Section 103 rejection of the presently pending claims is not a proper rejection. The Office Action cites Sakane as describing the present invention with the exception of specifically recited time periods for

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segments of the spin cycle which are characterized as being matters of design choice. As to the general assertion that Sakane describes the invention, Applicants respectfully disagree.

As the Federal Circuit has held: to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03

In the present case, Sakane describes a drum that is forward rotated for a time period (T_a) interrupted for a time period (T_b) and reverse rotated for a time (T_c) repeatedly in a wash step. Sakane asserts that this results in an improved washing effect wherein the clothes can be restrained from being entwined with one another and the unevenness in cleanness of the washed clothes can be prevented (col. 5, lines 43-47).

By contrast, the present invention teaches a spin cycle between the wash cycle and the rinse cycle, wherein the spin cycle includes a first initial spin, a first rest period after the first initial spin, and a spin subsequent the first rest period that commences immediately after the first rest period, and lasting until an end of the spin cycle. Applicants respectfully traverse the assertion in the Office Action that these limitations are shown in Sakane. Nowhere in Sakane is there any description or suggestion of anything beyond repeatedly reversing the direction of rotation of a drum during a wash cycle. Thus, Sakane fails to teach all the limitations of the presently pending claims. Accordingly, Sakane cannot support a prima facie case of

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obviousness. For this reason alone, Applicants respectfully request that the 103 rejection of Claims 12-20 be withdrawn.

Nevertheless, Claims 12-16 depend from Claim 10 which recites, a washing machine including "a basket; a motor providing motion for said basket; and a controller operatively coupled to said motor for controlling said motor, said controller configured to perform a spin cycle between a wash cycle and a rinse cycle by starting said motor for a first initial spin, stopping said motor for a first rest period, and starting said motor immediately following the first rest period to spin until the spin cycle ends".

Sakane does not describe or suggest a washing machine including a basket, a motor providing motion for the basket, and a controller operatively coupled to the motor for controlling the motor, wherein the controller is configured to perform a spin cycle between a wash cycle and a rinse cycle by starting the motor for a first initial spin, stopping the motor for a first rest period, and starting the motor immediately following the first rest period to spin until the spin cycle ends. More specifically, Sakane does not describe or suggest a controller that is configured to perform a spin cycle between a wash cycle and a rinse cycle by starting the motor for a first initial spin, stopping the motor for a first rest period, and starting the motor immediately following the first rest period to spin until the spin cycle ends. Rather, Sakane describes a control device wherein the motor is feedback controlled so as to be driven to be rotated at the rotational speeds according to the rotational speed reference signal (S_n) (col. 5, lines 24-26). Thus, the motor is also operated in a pattern of forward rotation that is interrupted and followed by reverse rotation repeatedly in a wash step, which is not part of the spin cycle. Accordingly, for the reasons set forth above, Claim 10 is submitted to be patentable over Sakane.

Claims 12-16 depend from independent Claim 10. When the recitations of Claims 12-16 are considered in combination with the recitations of Claim 10, Applicants submit that dependent Claims 12-16 likewise are patentable over Sakane.

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Claim 17 recites a control system for a washing machine, the washing machine including a basket and a motor coupled to the basket to provide agitation in the basket, the control system configured to "perform a spin cycle between a wash cycle and a rinse cycle by starting the motor for a first initial spin, stopping said motor for a first rest period, and starting the motor immediately following the first rest period to spin until the spin cycle ends".

Sakane does not describe or suggest a control system for a washing machine, the washing machine including a basket and a motor coupled to the basket to provide agitation in the basket, wherein the control system is configured to perform a spin cycle between a wash cycle and a rinse cycle by starting the motor for a first initial spin, stopping said motor for a first rest period, and starting the motor immediately following the first rest period to spin until the spin cycle ends. More specifically, Sakane does not describe or suggest a control system controller wherein the motor is started immediately following the first rest period to spin until the spin cycle ends. Rather, Sakane describes a control device wherein the motor is feedback controlled so as to be driven to be rotated at the rotational speeds according to the rotational speed reference signal (S_n), whereby the motor is also operated in a pattern of forward rotation that is interrupted and followed by reverse rotation repeatedly in a wash step, which is not part of the spin cycle. Accordingly, for the reasons set forth above, Claim 17 is submitted to be patentable over Sakane.

Claims 18-20 depend from independent Claim 17. When the recitations of Claims 18-20 are considered in combination with the recitations of Claim 17, Applicants submit that dependent Claims 18-20 likewise are patentable over Sakane.

For the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 12-20 be withdrawn.

The objection to Claims 3-9 is respectfully traversed.

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Applicants thank the Examiner for the indication of allowable subject matter in dependent Claims 3-9. Applicants submit, however, that Claims 3-9 depend from Claim 1 which is submitted to be patentable over the cited art for the reasons set forth above, and that Claims 3-9 are likewise patentable.

Accordingly, Applicants respectfully request that the objection to Claims 3-9 be withdrawn.

In view of the foregoing remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



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